ABSTRACT OF THE DISCLOSURE

A communications system includes a physical layer hardware unit and a processing unit. The physical layer hardware unit is adapted to communicate data over a communications channel in accordance with assigned transmission parameters. The physical layer hardware unit is adapted to receive an incoming signal over the communications channel and sample the incoming signal to generate a digital received signal. The processing unit is adapted to execute a standard mode driver in a standard mode of operation and a privileged mode driver in a privileged mode of operation. The standard mode driver includes program instructions adapted to extract encrypted data from the digital received signal and pass the encrypted data to the privileged mode driver. The privileged mode driver includes program instructions adapted to decrypt the encrypted data to generate decrypted data including control codes and transfer the control codes to the physical layer hardware unit. The physical layer hardware is adapted to configure its assigned transmission parameters based on the control codes. A method for configuring a transceiver includes receiving encrypted data over a communications channel in a standard processing mode of a processing unit; transitioning the processing unit into a privileged processing mode; decrypting the encrypted data in the privileged processing mode; extracting control codes from the decrypted data in the privileged processing mode; and transmitting an upstream signal over the communications channel based on transmission assignments defined by the control codes.